

CLAIMS

1. An inverter device comprising:
 - an output-voltage calculating unit that calculates an output voltage command based on a frequency command value for driving a motor and a state quantity of the motor, in each calculation period;
 - a PWM-pattern generating unit that outputs a PWM signal according to an output-voltage command value output by the output-voltage calculating unit; and
 - a switching unit that switches a direct voltage according to the PWM signal output by the PWM-pattern generating unit and supplies an alternating voltage with a predetermined frequency to the induction motor, wherein the output-voltage calculating unit includes
 - a function of calculating a plurality of output-voltage command values in which amplitudes are the same as each other but only phase advances under a fixed condition, in each calculation period.
2. The inverter device according to claim 1, wherein the PWM-pattern generating unit is a semiconductor integrated circuit that includes
 - a unit that temporarily stores each of the plurality of output-voltage command values output by the output-voltage calculating unit;
 - a unit that reflects the plurality of output-voltage command values stored, in a triangular wave signal in time-series order; and
 - a unit that outputs the PWM signal based on the result of the reflection.
3. The inverter device according to claim 1, wherein the output-voltage calculating unit calculates the

plurality of output-voltage command values when a phase change amount exceeds a predetermined value, and calculates one output-voltage command value when a phase change amount does not exceed the predetermined value.

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4. The inverter device according to claim 1, wherein when the plurality of output-voltage command values are to be calculated and if the frequency command value is greater than a predetermined value,

10 the output-voltage calculating unit calculates a larger number of output-voltage command values than a case of being smaller than the predetermined value.

5. The inverter device according to claim 1, wherein

15 the output-voltage calculating unit calculates the plurality of output-voltage command values when the frequency command value is greater than a predetermined value, and calculates one output-voltage command value when it is smaller than the predetermined value.